

IN THE CLAIMS:

These claims will replace all prior versions of claims in the present application.

Claims 1 to 22 have been cancelled.

23. (New) An electronic device including:

(a) a case containing a watch movement on which a dial is mounted, the watch movement including electronic circuits able to generate time signals to be sent to motor means controlling at least two analogue display members, wherein the analogue display members are arranged above the dial to display current time in a first operating mode; and the device further including

(b) a sensor for a physical magnitude, for periodic acquisition of value of the physical magnitude as a function of time in a second operating mode, wherein the sensor is connected to means for processing values capable of generating electric signals to storage means provided for storing values, wherein the device has a third operating mode in which the processing means are arranged for generating control signals to be sent to the motor means for a display representative of stored values of the physical magnitude as a function of time so that at least a first analogue display member of the at least two analogue display members indicates, opposite suitable graduations of the device, the value of a variable the change in which is linked to physical magnitude value, on condition that the variable does not give any indication relating to the time remaining before a decompression stop has to be made or any indication relating to a minimum depth not to be exceeded by a person wearing the electronic device when coming up from a dive, when a second analogue display member of the at least two analogue display members is made to indicate information relating to a depth.

24. (New) The device according to claim 23, wherein the first operating mode is a time mode, the third operating mode is a historic mode, and the electronic device is a watch.

25. (New) The device according to claim 24, wherein in said historic mode said processing means are further arranged for generating signals to be sent to said motor means so that said at least two analogue display members remain superposed.

26. (New) The device according to claim 24, wherein in said historic mode said processing means are also arranged for generating signals to be sent to said motor means so that the second analogue display member is positioned opposite a twelve o'clock position.

27. (New) The device according to claim 24, wherein in said historic mode, said processing means are further arranged for generating signals to be sent to said motor means so that at a given instant the second analogue display member indicates elapsed time since the start of acquisition of value of physical magnitude as a function of time, whereas said first analogue display member indicates value of said variable at said instant.

28. (New) The device according to claim 24, wherein the device includes additional means for calculating value of a second variable from said measured value of physical magnitude, wherein said processing means is arranged for generating signals to be sent to said motor means so that the second analogue display member indicates at each instant, in said historic mode, the value of said second variable corresponding to the value of said variable displayed by said first analogue display member.

29. (New) The device according to claim 24, wherein said sensor is a magnetic field sensor, wherein in said historic mode, said processing means are arranged for generating signals to be sent to said motor means so that said at least two analogue display members are aligned so as to indicate magnetic north.

30. (New) The device according to claim 23, wherein said sensor is an ambient pressure sensor.

31. (New) The device according to claim 30, wherein said first analogue display indicates a measured depth.

32. (New) The device according to claim 31, further including means for automatically activating said second operating mode from said time mode in response to immersion of the device in water.

33. (New) The device according to claim 30, wherein said first analogue display member indicates a measured altitude.

34. (New) The device according to claim 33, wherein said second analogue display member indicates an altitude difference value.

35. (New) The device according to claim 30, wherein said first analogue display member indicates a substantially instantaneous altitude variation speed.

36. (New) The device according to claim 35, wherein additional means are provided for generating signals to be sent to said control means so that said second analogue display member further indicates, in said historic mode and at a given instant, a mean altitude variation speed calculated over a predefined period of time preceding said given instant.

37. (New) The device according to claim 24, wherein the device includes a temperature sensor for measuring a physical magnitude representative of ambient temperature, said electronic circuits being capable of storing measurements of said temperature sensor to generate electric signals to be sent to said motor means so that one of said at least two analogue display members indicates temperature value in said historic mode.

38. (New) The device according to claim 24, wherein in said second operating mode, said processing means are arranged for generating signals to be sent to said motor means so that, during the course of said acquisition of the value of the physical magnitude, the display of the device is identical to the current time displayed by the at least two analogue members in the time mode.

39. (New) The device according to claim 23, wherein in said second operating mode, said processing means are arranged for generating signals to be sent to said motor means so that said first analogue display member displays the value of said variable substantially in real time.

40. (New) The device according to claim 24, wherein in said historic mode, said electronic circuits are capable of operating said motor means so that the display of the value of said variable as a function of time is performed over a predefined maximum period of

time, so that when actual duration of said acquisition of the value of the physical magnitude is greater than said predefined period of time, the value of said variable as a function of time is displayed in an accelerated manner.

41. (New) The device according to claim 23, wherein said electronic circuits are arranged for periodically storing said measured values in said second operating mode.

42. (New) The device according to claim 41, wherein said electronic circuits are arranged for altering the storage period of said measured values as a function of the actual duration of said acquisition of the value of the physical magnitude.

43. (New) The device according to claim 23, wherein the device further includes a liquid crystal display for displaying complementary information to indications provided by said at least two analogue display means.

44. (New) An electronic device including:

(a) a case containing a dial;
(b) electronic circuits including a time base and able to generate time signals to be sent to motor means controlling at least two analogue display members, arranged above the dial; and
(c) a sensor for a physical magnitude, for periodic acquisition of value of the physical magnitude as a function of time in a particular operating mode, wherein the sensor is connected to means for processing the values capable of generating electric signals to storage means provided for storing values, wherein the device has an additional operating mode that is a historic mode in which the processing means are arranged for generating control signals

to be sent to the motor means for a display representative of stored values of the physical magnitude as a function of time so that at least a first analogue display member of the at least two analogue display members indicates, opposite suitable graduations of the device, a value of a variable the change in which is linked to the physical magnitude value, on condition that the variable does not give any indication relating to time remaining before a decompression stop has to be made, when the second analogue display member of the at least two analogue display members is made to indicate information relating to a depth.

45. (New) A historic display method for electronic device including a case containing a watch movement on which a dial is mounted, the watch movement including electronic circuits able to generate time signals to be sent to motor means controlling at least two analogue display members, said analogue display members being arranged above the dial to display current time in a first operating mode that is a time mode, the device further including a sensor for a physical magnitude, wherein the method includes the steps of :

- (a) first of all, performing a periodic acquisition of value of the physical magnitude as a function of time in a second operating mode of the electronic device;
- (b) transmitting results of the periodic acquisition to means for processing the values capable of generating electric signals to be sent to storage means provided for storing said values; and
- (c) in a third operating mode that is a historic mode, controlling the motor means to form a display representative of stored values of the physical magnitude as a function of time, at least a first analogue display member of the at least two analogue display members indicating, opposite appropriate graduations of the device, a value of a variable the change in which is linked to the physical magnitude value, on condition that the variable does not give any indication relating to time remaining before a decompression stop has to be made, when a

second analogue member of the at least two analogue display members is made to indicate information relating to a depth.